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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

WILLIAM T. ROWSE et al.

Group Art Unit: 3629

Examiner: Jonathan P. Ouellette

Serial No.: 09/547,661

Filed: April 12, 2000

For: SYSTEM FOR PROCESSING A CUSTOMER CONCERN

Attorney Docket No.: FMC 1185 PUS (81050169)

APPEAL BRIEF UNDER 37 C.F.R. § 41.37

Mail Stop Appeal Brief - Patents

Commissioner for Patents

U.S. Patent & Trademark Office

P.O. Box 1450

Alexandria, VA 22313-1450

Sir:

The Applicants submit this Appeal Brief respectfully traversing Examiner Ouellette's October 7, 2005 final rejection of all pending claims. The Applicants have filed a Notice Of Appeal concurrently herewith.

CERTIFICATE OF MAILING UNDER 37 C.F.R. § 1.8 (FIRST CLASS MAIL)

I hereby certify that this paper, including all enclosures referred to herein, is being deposited with the United States Postal Service as first-class mail, postage pre-paid, in an envelope addressed to: Mail Stop Appeal Brief - Patents, Commissioner for Patents, U.S. Patent & Trademark Office, P.O. Box 1450, Alexandria, VA 22313-1450 on:

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Name of Person Signing

John S. Le Roy
Signature



Regarding “public dissemination,” pages on the World Wide Web are not “disseminated” — they are “browsed” using a “Web browser” — the antithesis of dissemination. Many web pages are never even browsed. Regardless, the Examiner has submitted no evidence to show that the Xactware reference was ever “disseminated” to members of the public, or “browsed” by members of the public, prior to the applicants’ date of invention.

Regarding “public availability,” the Examiner has made no showing that the Xactware reference was catalogued, indexed or searchable in any publically-available database prior to the applicants’ date of invention. The Web Archive’s database was not publically available until October 2001. Accordingly, there is no evidence that a person interested and ordinarily skilled in the subject matter or art, exercising reasonable diligence, could have located the Xactware reference prior to October 2001. Under *In re Klopfenstein*, *In re Cronyn*, and *In re Wyer*, the Xactware reference was not a “printed publication” before October 2001 — more than a year after the Applicants’ filing date (April 12, 2000).

Accordingly, the Applicants’ respectfully request that the Examiner’s rejections be withdrawn, and that the pending claims be allowed.

On December 23, 2004, the Applicants authorized the payment of an Appeal Brief fee of \$340. The Examiner reopened prosecution before the appeal was heard. Pursuant to MPEP § 1207.04, the Applicants request that this previously paid fee be applied to the new appeal. Applicants acknowledge that the Appeal Brief fee set forth in 37 C.F.R. § 41.20(b)(2) is currently \$500. Therefore, Applicants request that the difference between the increased fee and the amount previously paid of \$160, as well as any additional fees or credits, be applied to Deposit Account No. 06-1510 (Ford Global Technologies, Inc.). A duplicate of this page is enclosed for this purpose.

I. REAL PARTY IN INTEREST

The real party in interest is Ford Global Technologies, Inc.

II. RELATED APPEALS AND INTERFERENCES

Applicants have submitted concurrently herewith an appeal in a related matter, Application Serial No. 09/547,650 titled Method For Processing A Customer Concern.

III. STATUS OF CLAIMS

Claims 1, 4, 5, 7-14, 38, 40, and 42-45 are pending, have been rejected, and are being appealed.

IV. STATUS OF AMENDMENTS

No amendment has been filed subsequent to the final rejection.

V. SUMMARY OF CLAIMED SUBJECT MATTER

Independent claim 1 recites a system for processing a product concern, such as damage to a vehicle, a vehicle defect, or a vehicle repair. The system includes a service station, such as the example illustrated in Figure 9. The service station includes a first computer 132 and a removable integrated digital camera and scanner unit, 134 and 136 respectively. An embodiment of the integrated digital camera and scanner unit removed from the service station is illustrated in Figure 11. The camera/scanner unit is configured to capture digital information including one or more photographs and identifying indicia (e.g., a barcode) related to the product concern. (Spec., pp. 24-25.) When the camera/scanner unit is placed

in electrical communication with the first computer within the service station, the captured digital information is automatically transmitted from the integrated digital camera and scanner unit to the first computer. (Spec., p. 20.) The first computer is configured to generate a claim approval request screen for receiving and displaying the digital information and identifying indicia related to the product concern. One embodiment of this screen is illustrated in Figure 19a, and described on pages 25-27.

The system also includes a reviewer station having a second computer for receiving the captured digital information from the service station and for determining how to address the product concern. (Fig. 1; Fig. 4; Spec., p. 15, ll. 7-23; p. 13, ll. 13-29, p.26.)

A communication port (e.g., modem port 138, LAN port 140, etc.) on the service station enables communication between the service station computer and a reviewer station. (Fig. 1, Fig. 4, Spec., p. 15, ll. 7-23.) Information relating to the product concern (e.g., photographs, identifier, etc.), is communicated to the reviewer station for determining how to address the product concern. (Spec., p. 13, ll. 13-29.)

Independent claim 40 recites a system for evaluating vehicle warranty concerns in real-time. This system uses an integrated digital camera and vehicle identification device for capturing information relating to a vehicle warranty concern, and transmits the information to a second computer over a communication network for evaluation in real-time.

VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

The Examiner has rejected all pending claims (1, 4, 5, 7-14, 38, 40, and 42-45) under 35 U.S.C. 103(a) over Xactware (www.xactware.com) combined with Bunte (U.S. 6,330,975), Chainer (U.S. 6,397,334), DiRienzo (U.S. 6,076,066), Bradbury (5,442,512) and/or (Harvey U.S. 6,208,507).

VII. ARGUMENT

The Examiner has not established that the Xactware reference (Exhibit A) is a “printed publication.” In the October 7, 2005 final rejection, the Examiner stated that the reference was “retrieved from the Internet Archive Wayback Machine < www.archive.com > , 6/29/1998.”

In their November 23, 2005 remarks, the Applicants’ respectfully traversed the Examiners’ final rejection because the “Internet Archive Wayback Machine” from which the Xactware reference was taken was not publically available until October 2001 — after the Applicants’ filing date.¹

In the December 19, 2005 Advisory Action, the Examiner stated:

[T]he Internet Archive Wayback Machine (www.archive.com) is a reference tool used to show proof that a web page was publically available on a sited (sic) date range, not as the actually (sic) source of prior art.

But the Applicants to not dispute the “source” of the Xactware reference. The Applicants contend that the Xactware reference did not qualify as a “printed publication” prior to the Applicants’ date of invention.

To be a “printed publication,” a reference must be “publically disseminated” or “publically accessible.” *In re Klopfenstein*, 380 F.3d 1345, 1348; 72 U.S.P.Q.2d 1117 (Fed.Cir. 2004). To be “publically accessible,” the reference must be catalogued or indexed in such a manner that an interested member of the public can locate the reference. *Id.* For example, a thesis residing in a public library that is not catalogued in a searchable fashion is

¹ Exhibit B, p. 1, “With the October 2001 launch of the Wayback Machine, this huge archive is now freely available to the Web public.”

not a printed publication, regardless of the fact that the thesis physically resided in the public domain. *In re Cronyn*, 890 F.2d 1158, 1161; 13 U.S.P.Q.2d 1070 (Fed.Cir.1989).

The examiner has made no showing that the Xactware reference was publically disseminated or publically accessible (*i.e.* catalogued or indexed in a publically-accessible database) prior to the applicants' date of invention. But "substantial evidence" is required to support the Examiner's rejection. MPEP 1216.01; *In re Gartside*, 203 F.3d 1305, 1315, 53 USPQ2d 1769,1775 (Fed.Cir.2000).

MPEP 2128 provides:

A reference is proven to be a "printed publication" "upon a satisfactory showing that such document has been disseminated or otherwise made available to the extent that persons interested and ordinarily skilled in the subject matter or art, exercising reasonable diligence, can locate it." *In re Wyer*, 655 F.2d 221, 210 USPQ 790 (CCPA 1981).

* * *

ELECTRONIC PUBLICATIONS AS PRIOR ART

An electronic publication, including an on-line database or Internet publication, is considered to be a "printed publication" within the meaning of 35 U.S.C. 102(a) and (b) provided the publication was accessible to persons concerned with the art to which the document relates. See *In re Wyer*, 655 F.2d 221, 227, 210 USPQ 790, 795 (CCPA 1981) ("Accordingly, whether information is printed, handwritten, or on microfilm or a magnetic disc or tape, etc., the one who wishes to characterize the information, in whatever form it may be, as a 'printed publication' * * * should produce sufficient proof of its dissemination or that it has otherwise been available and accessible to persons concerned with the art to which the document relates and thus most likely to avail themselves of its contents."

Regarding “public dissemination,” pages on the World Wide Web are not “disseminated” — they are “browsed” using a “Web browser” — the antithesis of dissemination. Many web pages are never even browsed. Regardless, the Examiner has submitted no evidence to show that the Xactware reference was ever “disseminated” to members of the public, or “browsed” by members of the public, prior to the applicants’ date of invention.

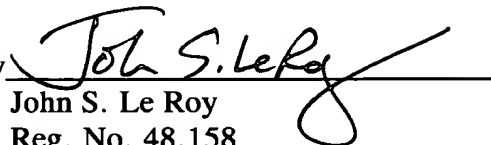
Regarding “public availability,” the Examiner has made no showing that the Xactware reference was catalogued, indexed or searchable in any publically-available database prior to the applicants’ date of invention. The Web Archive’s database was not publically available until October 2001. Accordingly, there is no evidence that a person interested and ordinarily skilled in the subject matter or art, exercising reasonable diligence, could have located the Xactware reference prior to October 2001. Under *In re Klopfenstein*, *In re Cronyn*, and *In re Wyer*, the Xactware reference was not a “printed publication” before October 2001 — more than a year after the Applicants’ filing date (April 12, 2000).

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Respectfully submitted,

WILLIAM T. ROWSE et al.

By 
John S. Le Roy
Reg. No. 48,158
Attorney/Agent for Applicants

Date: January 13, 2006

BROOKS KUSHMAN P.C.
1000 Town Center, 22nd Floor
Southfield, MI 48075-1238
Phone: 248-358-4400
Fax: 248-358-3351

Enclosures: Exhibit A
Exhibit B
Appendices
Duplicate for Deposit Account

VIII. CLAIMS APPENDIX

1. A system for processing a product concern, the system comprising:

a service station having a first computer and a removable integrated digital camera and scanner unit for capturing digital information including one or more photographs and identifying indicia related to the product concern wherein the captured digital information is automatically transmitted from the integrated digital camera and scanner unit to the first computer upon placing the integrated digital camera and scanner unit in electrical communication with the first computer within the service station, the first computer being configured to generate a claim approval request screen for receiving and displaying the digital information and identifying indicia related to the product concern;

a reviewer station having a second computer for receiving the captured digital information from the service station and for determining how to address the product concern;
and

a communication port for connecting the first computer at the service station with the second computer at the reviewer station for transmitting information related to the product concern including the captured digital information.

2.-3. (canceled)

4. The system of claim 1 wherein the at least one identifying indicia is a vehicle identification number; and

the claim approval request screen for receiving and displaying the identifying indicia includes a dialog portion for carrying on a dialog with the second computer.

5. The system of claim 1 wherein the at least one identifying indicia is watermarked onto the one or more photographs.

6. (canceled)

7. The system of claim 1 wherein the service station comprises a housing having a base and a base cover.

8. The system of claim 7 wherein the base comprises a first recessed portion for receiving a computer.

9. The system of claim 8 wherein the base further comprises a second recessed portion for receiving the integrated digital camera and scanner unit.

10. The system of claim 9 wherein the second recessed portion further comprises a plurality of terminals for contacting a plurality of terminals on the integrated digital camera and scanner unit.

11. The system of claim 10 wherein the plurality of terminals comprises a first set of terminals for communication with a first set of terminals for charging the integrated digital camera and scanner unit.

12. The system of claim 11 wherein the plurality of terminals further comprises a second set of terminals for communication with a second set of camera terminals for transmitting data between the integrated digital camera and scanner unit and the first computer.

13. The system of claim 1 wherein the service station comprises a power supply for providing electrical power to the integrated digital camera and scanner unit.

14. The system of claim 1 wherein the service station comprises a battery charger for charging a battery included in the integrated digital camera and scanner unit for providing electrical power to same.

15.-37. (canceled)

38. The system of claim 1 wherein the product concern involves a warranty concern relating to a vehicle.

39. (canceled)

40. A system for evaluating a vehicle warranty concern during a real-time communication session, the system comprising:

a first computer device for receiving information relating to a vehicle warranty concern, the first computer being configured to generate a claim approval request screen for receiving and displaying digital information and identifying indicia related to the vehicle warranty concern;

an integrated digital camera and vehicle identification device for capturing at least one image and an identification for the vehicle, respectively relating to the vehicle warranty concern; and

a second computer device for receiving the information, the at least one image and the identifier via a communication network for evaluation of the vehicle warranty concern during a real-time communication session.

41. (canceled)

42. The system of claim 40 wherein the identification for the vehicle is a vehicle identification number; and

the claim approval request screen for receiving and displaying the identifying indicia includes a dialog portion for carrying on a dialog with the second computer.

43. The system of claim 40 wherein the identification device is a barcode scanner.

44. The system of claim 40 wherein the identification for the vehicle is watermarked onto the at least one image.

45. The system of claim 40 wherein communication between one or more of the devices is via one or more cables.

46.-50. (canceled)

IX. EVIDENCE APPENDIX

Exhibit A is a copy of the Xactware reference that the Examiner relied on in rejecting pending claims 1, 4, 5, 7-14, 38, 40, and 42-45.

Exhibit B is a copy of a web page from <http://www.onlinemag.net> indicating that the Internet Archive database was not available for searching by the public until October 2001.

X. RELATED PROCEEDINGS APPENDIX

None.

Enter Web Address:

All

Take Me Back

[Adv. Search](#) [Compare Arch](#)Searched for <http://www.xactware.com>

80 Results

Note some duplicates are not shown. [See all](#).
 * denotes when site was updated.

Search Results for Jan 01, 1996 - Sep 29, 2005

1996	1997	1998	1999	2000	2001	2002
1 pages	3 pages	4 pages	2 pages	9 pages	7 pages	12 pages
Dec 26, 1996 *	Jan 31, 1997 *	Feb 10, 1998 *	Apr 24, 1999	Mar 02, 2000 *	Feb 03, 2001 *	Feb 15, 2002 * Fi
	Apr 14, 1997 *	Feb 16, 1998 *	Apr 30, 1999	Mar 04, 2000	Feb 04, 2001	May 26, 2002 * Fi
	Jun 11, 1997 *	Jun 29, 1998 *		May 10, 2000	Mar 02, 2001 *	May 30, 2002 Fi
		Dec 12, 1998 *		May 11, 2000	Mar 30, 2001	Jun 14, 2002 * M
				Jun 21, 2000 *	Apr 05, 2001 *	Jul 26, 2002 * Ai
				Jul 06, 2000 *	May 16, 2001	Aug 02, 2002 M
				Aug 16, 2000 *	Dec 20, 2001 *	Sep 28, 2002 * Ji
				Oct 18, 2000 *		Sep 30, 2002 Ji
				Dec 02, 2000 *		Oct 17, 2002 * Ai
						Nov 13, 2002 * O
						Nov 28, 2002 * O
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EXHIBIT A

XACTWARE, INC. INTRODUCES XACTNET®

The First Property Insurance Claims Management System And Network

OREM, UTAH DECEMBER 1995 -- The property insurance industry's first full-circle, real-time claims management system and network -- a system that was developed at the specific request of a top-five property insurer -- is now available to other insurance companies and to independent adjusters and builders.

The XactNet® Claims Information System (CIS) is an important development that will help insurers reduce costs, settle claims faster and more accurately, and improve customer service, according to James Loveland, Xactware Inc. president. Xactware is a leading provider of software, databases and support services to the property insurance, remodeling/repair and reconstruction industries.

"We've proven the enormous advantages of the XactNet system during a year of real-world use by USAA, a top-five property insurance company," Loveland said. "We've learned that it can significantly reduce the cost of settling a claim, the time needed to process a claim, and the time it takes to complete the repairs."

Important increases in control and savings

"Xactware's XactNet, in combination with PRISM's contractor network services, has given us important increased claims control, management and cost reductions," said Steve Marlin, USAA Assistant Vice President, Property Claims Policy. USAA was the first major property insurer to adopt XactNet. PRISM is the third-party administrator for a national network of USAA-approved contractors.

The "front end" of the XactNet system is Xactimate® estimating software. Xactimate is the software most widely used by the insurance industry to estimate property damage repair and reconstruction. Six of the top 10 property insurance companies use Xactimate. Carriers who use Xactimate represent a combined 43 percent of net premium dollars written in the U.S.

The "back end" is highly secure data servers and communications hubs that are operated by Xactware. The front end/back end combination gives XactNet users an immediate, turnkey claims management network at minimal cost. Any modem-equipped PC running Xactimate version 5.5 or above can connect immediately. XactNet system users simply log into the data server/communications hub using the communication module built into Xactimate (version 5.5 and above.)

The system automates claims workflow by allowing insurers to pass assignments and estimates to/from staff adjusters and outside service providers. Assignments and estimates download automatically when an authorized user logs onto the network. The XactNet hub can also automatically send a fax *notification of assignment* to the addressee -- or beep that person's pager -- to insure the fastest possible notification.

Every estimate that passes through the hub is subjected to a dynamic audit report: Any

(2)

discrepancies between prices used in the estimate and the insurer's price database are noted in an audit report that is automatically appended to each estimate.

XactNet also provides monthly updates national-average claims information from all users. In addition, insurers can choose from a number of pre-formatted management reports. They can also download their company's claims database to create their own customized reports with a compatible report engine such as Crystal Report® or Cognos' Power Play®.

For more information, pricing or a demonstration of the XactNet Claims Information System, call Xactware at 1-800-932-9228.

Xactware provides innovative solutions and service to the property insurance and construction industries. Xactware products include Xactimate® estimation software, the XactNet® Claims Information System, XactAccount® construction accounting software, XactValue® insurance-to-value software, and market-specific and national databases of prices for construction materials and labor.

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XACTNET® SPECIFICATIONS

HARDWARE/Laptop or field office: IBM compatible 386/33Mhz or faster (486 recommended); 8 MB RAM; 40 MB free HD space; 3.5" floppy drive; DOS 5.0 or higher; Hayes compatible 14.4 KB or faster modem (28.8 or faster recommended); Color monitor and mouse recommended.

HARDWARE/Insurance Co. home office: IBM compatible 486DX or faster (Pentium recommended); 8 MB RAM; 100 MB free HD space; 3.5" floppy drive; DOS 5.0 or higher; Hayes compatible 14.4 KB or faster modem (28.8 or faster recommended); Color monitor and mouse recommended.

SOFTWARE: Xactimate version 5.5 or higher.

Key Features and Benefits

The XactNet system pays for itself many times over -- with a return-on-investment (ROI) of just months -- as it lowers indemnity and administrative costs. The XactNet system also provides improved customer service through faster, more accurate estimates and claims settlements.

Built-in Network	<ul style="list-style-type: none"> • Modern-equipped PCs running Xactimate ver. 5.5 or higher can upload/download assignments and estimates with the built-in XactNet communications module. • Any standard web browser can be used to download management reports and the carrier's full estimate database from the secure XactNet site.
Speed	<ul style="list-style-type: none"> • Automatic download on log in -- plus fax and/or pager notification -- ensures quick delivery and receipt of assignments and estimates. • Automatic download of assignments to dedicated dial-up PCs is available. • Date/time stamping provides real-time assignment status.
Flexibility	<ul style="list-style-type: none"> • Rotation assignments or assignment to a specific contractor. • Reassignment to outside vendors. • Digital image viewing, transfer and storage.
Accuracy	<ul style="list-style-type: none"> • Includes industry-leading Xactimate estimating software. • Built-in <i>Residential</i>, <i>Commercial</i> and <i>Cleaning</i> price list databases -- with quarterly updates -- for nearly 500 markets covering the U.S. and Canada. • Dynamic audit reports that double-check quantity, type and prices of materials are automatically appended as estimates pass through the XactNet hub back to the carrier.
Management Reports	<ul style="list-style-type: none"> • Real-time access to assignment tracking information. • A variety of pre-formatted management reports. • Carrier's can download their estimate database in dBASE format and create custom reports.
Planned	<ul style="list-style-type: none"> • Individual carrier vs. National industry average comparisons

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Improvements	<ul style="list-style-type: none">• Send/receive Work Authorization• Send/receive Certificates of Completion• Estimate data in ANSI format• Electronic Funds transfer• XactNet access via the Internet.
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Xactware's Complete SuiteTM 97

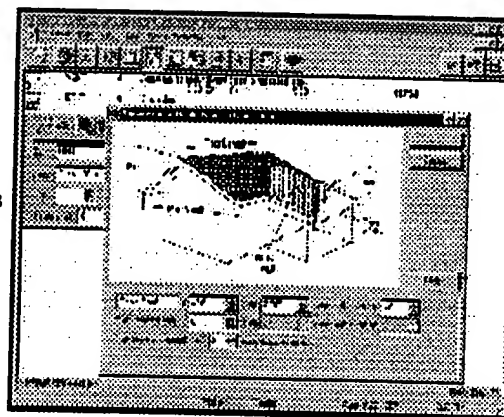
Now Available

Xactware's Complete Suite integrates Xactimate, the industry's #1 estimating program; with XactAccount, a full-featured accounting application; and Xpedite, a scheduling and contact management application. XactCentral gives you quick access to these suite applications and I you communicate electronically via XactNet, the industry's first full-circle information network

(click to view full size graphics)

Estimate quickly & accurately with Xactimate

Xactimate establishes a new industry standard with its Windows interface and powerful Xperts. These Xperts automate difficult tasks such as roof systems and waste inspection. You can now estimate faster and with more precision.



Xactimate passes information on to XactAccount.



Manage your business more effectively with XactAccount

Custom designed for cleaning and construction companies, XactAccount's new easy-to-use interface and powerful new features give you information when and how you need it.

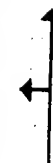
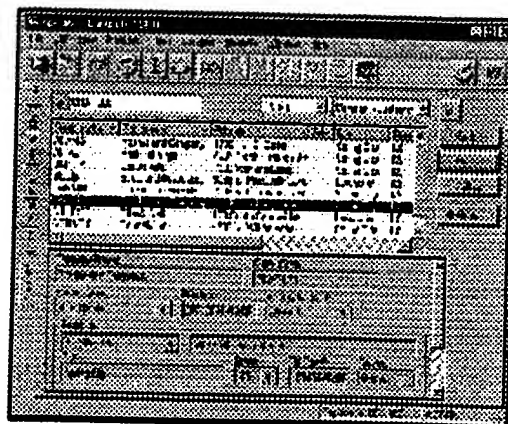
Date	Description	Debit	Credit	Balance
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Timecard and billing information passes between Xpedite and XactAccount



Grow your business faster by managing customer information with Xpedite

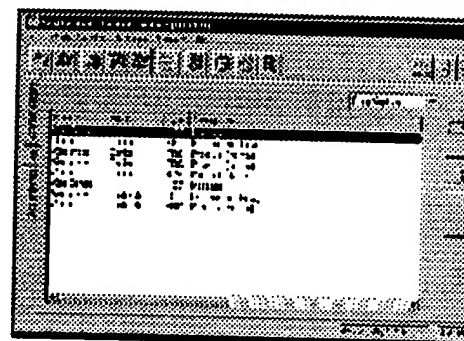
Scheduling and contact management just got a whole lot easier. Xpedite not only keeps track of appointments, meetings, and work schedules, it also helps you more effectively manage contact information



XactCentral gives quick access to the othersuite applicati

Transfer information electronically with XactCentral

XactCentral is your interface with XactNet, the industry's most powerful and secure information network. Electronically send and receive assignments, estimates, price lists, messages, and more with other XactNet users including carriers and service providers.



Minimum system requirements:

- ✦ Windows 95 or Windows NT 4.0 (Service Pack 3) operating system (or higher)
- ✦ Pentium 133
- ✦ 16 MB of RAM
- ✦ 120 MB of available hard drive space (180 MB with tutorials installed)
- ✦ 4X CD ROM drive
- ✦ Fax/modem, 28.8 BPS
- ✦ SVGA color monitor with resolution set at 800x600
- ✦ TCP/IP Internet connection required for quick installation via XactNet and other XactNet uses



Call 1-800-932-9228 or visit us online at www.xactware.com



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XactNews™



News for the Construction and Insurance Repair Professional

Volume 2, Issue 1

Spring 1997

In this issue:

- Xactware putting finishing touches on Win95-based software suite for 1997
- XactNet connects the restoration industry
- Xactimate 5.8 provides XactNet access, and much more
- Xactware's multi-media construction training now available
- Xactimate and XactAccount training available
- Join Xactware's Support and Upgrade program now and save!
- Xactware's software suite is the new wave in office integration
- XactValue ships nationwide
- Xactware, Inc. is changing our name and look
- Xactware support is expanding

Xactware putting finishing touches on Win95-based software suite for 1997

Xactware is announcing sweeping new improvements in their industry-leading software packages. According to James Loveland, Xactware President, "These changes make our packages even better and more comprehensive for helping our customers manage their day-to-day workflow. Companies will now be able to use Xactware's suite of products to manage their entire operation."

The new suite of products, called Xactware's Complete Suite 97 (XCS-97), is a Windows 95-based or Windows NT 4.0-based system. XCS-97 introduces a totally new software module called Xpedite. Xpedite allows you to manage contacts, appointments, crew and other work processes. XCS-97 will also introduce two advanced, paradigm-shifting, suite-wide features called Xperts and Smart Objects.

Xactimate 97

Xactimate 97 gives you the same industry-standard estimating system as Xactimate 5.8, but enhances it with a Windows 95 and open-minded Xpert-system interface, providing a giant leap in power, flexibility, programmability and adaptability.

XactAccount 97

Xactware's powerful job-cost oriented accounting system includes General Ledger, Payroll, Accounts Receivable, Accounts Payable, Checkbook, Human Resources, Inventory and Job Costing.

Xpedite 97

Xpedite 97 gives you a fully integrated office resource management tool. It provides time management and task monitoring, as well as contact management features. Working with Xactware's other Win95 products, Xpedite gives you a full office management solution.

Every module in XCS-97 is a user-programmable Xpert-system that knows how to talk to the other



Xpert systems in the suite. "It's really hard to fully appreciate the power of Xperts until you see it for yourself," says Robert Bascom, Manager of Xpert Development. In Xactimate (the estimating module of XCS-97), Xperts allow you to build detailed, room-by-room estimates by answering a few questions. "It's really just like talking to an expert who knows not only how to do the calculations, but which items to use and how to place them in the estimate," said Bascom.

Once dimensions are in place, the Flood Xpert will ask a few questions about the water level, type of floor & wall material and their finish. The Xpert will then literally write a room-by-room estimate for you by inserting all the right items in all the right quantities in each room. The Roofing Xpert can actually calculate the number of trusses, the amount of blocking, bracing, shingles, felt etc. based upon the answers you give. Another type of Xpert can check the estimate for scope overlap or scope omission. It even suggests possible solutions for problems it finds with the scope.

In XactAccount an Xpert can be used to calculate commissions based upon any set of rules you care to implement. Another Xpert calculates the number of accrued vacation and sick leave days based on whatever set of rules you provide.

In Xpedite an Xpert can be used to create and control a workflow process.

Smart Objects

All XCS-97 modules plus XactNet, Xactware's secure, value-added network, know how to communicate with each other by sending or receiving Smart Objects. This helps to ensure that information entered in one module is known to all. Administrative information, such as name, address, and phone number, for an assignment received from XactNet will already be in place in Xactimate when its time to do the estimate. A meeting you scheduled and logged in Xpedite with a customer for whom you are doing consultation, will already be known to XactAccount which can automatically integrate it into accounts receivable and do the billing without further entry.

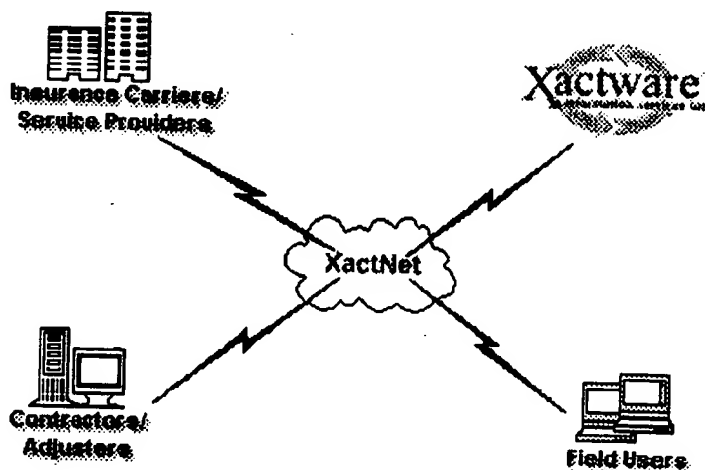
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XactNet connects the restoration industry

The insurance restoration industry will never be the same.

"XactNet is the industry's first real-time property, claim, assignment, management and estimating system," says James Loveland, Xactware President. "By providing a direct link to insurance companies, XactNet speeds the estimating process exponentially."

Xactware's latest software release Xactimate 5.8 gives users the option to connect to XactNet, the industry's first full-circle communications network. With Xactimate 5.8 and a modem, users can send and receive estimates, price lists, and other related Xactimate files via XactNet.



XactNet's reporting partner, XactInfo, lets users view real-time summary and detail reports through their own secure Internet page. Information is presented in a clear, easy-to-understand format.

For restoration contractors, XactNet means a direct link to the carriers they service. For insurance carriers, XactNet offers a real-time claims tracking network.

"Xactware's XactNet, in combination with PRISM's Contractor network services, has given us important increased claims control, management and cost reduction," said Steve Marlin, USAA Assistant Vice President, Property Claims Policy.

"We've learned that XactNet significantly reduces the time needed to process estimates," Loveland says.

With XactNet, each estimate can be "fast-tracked" through the claims process by sending it electronically to the carrier.

Another advantage is that carrier estimate assignments reach a contractor within minutes. For more information call 1-800-424-XACT (9228).

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Xactimate 5.8 provides XactNet access, and much more

Xactimate 5.8, the latest upgrade of Xactimate, has been released.

→ Xactimate 5.8's most exciting new feature is automatic XactNet access, but in addition, it provides users with online FEMA forms, enhanced password security, and added flexibility for those who work with multiple insurance carriers.

"Throughout the development of Xactimate, we've succeeded because we've actively sought and incorporated feedback from our users. They are the ultimate experts when developing innovative, new tools designed to make them more efficient," says James Loveland, Xactware President.

Xactimate is the industry-standard estimating software because of its easy-to-use interface and widely-accepted price databases.

Xactware's price lists, which are updated quarterly for more than 450 areas in the United States and Canada, can now be downloaded via XactNet.

Some of Xactimate 5.8's new features include:

- Sending and receiving estimates and assignments via XactNet.
- Online administrative forms. Use Xactimate to complete FEMA forms and other admin forms that you need to include with your estimate.
- More price list flexibility. Print price list item definitions and graphics to help negotiate important line items. Also, it's now easier than ever to create new price list items by duplicating existing items.
- Ability to use customized profiles of Xactimate when working with different carriers.
- Runs under both Windows 3.1 and Windows 95.

Xactimate users on the Support and Upgrade program receive Xactimate 5.8 at no additional cost.

For information on ordering Xactimate 5.8, call 1-800-424-XACT (9228).

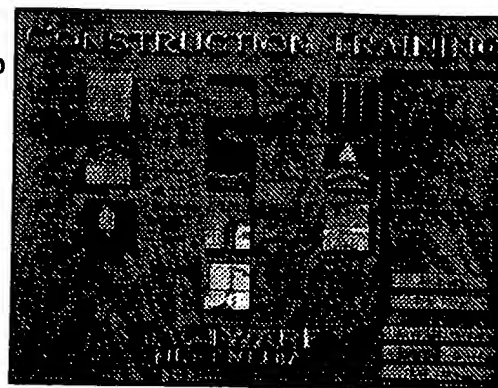
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Xactware's multi-media construction training now available

Estimating without proper training is like building without a proper plan. Well trained estimators are every bit as important to your bottom line as accurate estimating software and data.

Using the same expertise that has created the leading construction estimating software, Xactware introduces our Interactive Learning Xperience™ (ILX).

Incorporating full-motion video, narration, and animation, Xactware's ILX is the most complete interactive construction training program ever developed.



"Xactware's ILX offers training that gives the user the closest thing to field experience you can get, without leaving the office," says Ron Saffell, Xactware Account Executive.

Using state-of-the-art computer technology, Xactware's ILX involves the user in the learning process.

Organized in ten easy-to-follow blocks, Xactware's ILX covers the construction process from top to bottom. Starting out with basic calculations, it also covers more difficult topics such as roofing and electrical.

Xactware's ILX lets users move through the blocks at their own pace, in a peer-pressure-free environment. ILX reviews topics when necessary and periodically asks questions to be sure the information presented has been understood.

Available on CD, Xactware's ILX can be used by both large and small organizations.

Call 1-800-424-9228 for more information on how to order Xactware's Interactive Learning Xperience.

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Xactimate and XactAccount training available

Xactware is known in the industry for backing up the software products we sell. Xactware places a special emphasis on quality training.

Focusing on both beginning and advanced users of Xactimate and XactAccount, Xactware regularly schedules training seminars in major cities throughout the U.S. and Canada, including Xactware's state-of-the-art training center in Orem, Utah (35 miles south of Salt Lake City).

"Our training really helps our customers get the most out of the program," says Brent Webster, Manager of Xactware's Training Services.

For a complete list of training dates and locations, call 1-800-232-XACT (9228), or visit Xactware's Internet web site at www.xactware.com.

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Join now and save!

Take advantage now by joining Xactware's Support and Upgrade program before the release of Xactimate 97. Not only will you get the Xactimate 5.8 upgrade, you'll get Xactimate 97 as well. If you wait until after 97 is released, there will be an additional upgrade fee. For more information call 1-800-424-9228.

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Xactware's Complete Suite 97 to be released later this year

Xactware's software suite is the new wave in office integration

Xactware's Complete Suite 97 (XCS-97) begins a new era of estimating and office management. It incorporates all of the easy-to-use features of previous Xactware products and adds many new features that will revolutionize computer estimating and office management in the construction industry.

Xactware's Complete Suite 97 includes three software products: Xactimate, XactAccount, and Xpedite.

- Xactimate: a construction estimating program that incorporates industry-standard price lists with the most powerful estimating features available.
- XactAccount: a full-featured accounting program that provides seamless job costing by enabling you to transfer estimates directly from Xactimate.
- Xpedite: a fully-integrated office resource management tool. Provides time management, task monitoring, crew management, and contact management.

What exactly is a "software suite"?

A software suite is a group of software products that share the same look and feel and work together to accomplish related tasks.

How will Xactware's Complete Suite 97 improve my business operations?

Xactware's Complete Suite 97 seamlessly integrates contact management, accounting, estimating, and job tracking into a ready resource that will help increase your bottom line by improving your office efficiency.

Will Xactware's Complete Suite 97 help me track my customers?

Yes, contact management is an important part of Xactware's Complete Suite 97. For example, using Xperts, you can set up Xpedite to alert you each time a customer needs to be contacted.

Does Xactimate 97 still have the estimating screens and features that I'm used to?

Yes. Xactimate 97 uses the same basic estimating screens found in Xactimate 5.8. As a matter of fact, Xactimate 97 offers more flexibility, like enabling you to look at more than one estimating screen at a time. For example, you can view the Grouping screen and Summary at the same time. Also, you'll be able to use the same searching tools found in Xactimate 5.8 as well as a couple of new ones.

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What about the learning curve with Xactimate 97? Will it be hard to learn?

If you're familiar with Windows and Xactimate 5.8, you'll have no problem. If you're not familiar with Windows, Xactimate 97 will come with a Getting Started booklet to teach you the basics and a complete online user's guide that can be accessed anytime you have a question.

In addition, Xactimate's online help will include "How Do I?" help, which walks you through the current task you're working on. Or you can browse through related How Do I's to learn about other Xactimate features and how they help you create an estimate.

What are some of the new features expected in Xactimate 97?

Several new Xactimate 97 features include:

- **The Estimating Toolbar** You can quickly jump to any of the estimating windows with a single click. Additional estimating windows include Minimum List and Component List.
- **Assembly Xperts** These Xactimate Xperts help walk you through the estimation process of specific assembly structures, such as floor systems and roof systems.
- **Inspection Xpert** This Xactimate Xpert double-checks your completed estimate for errors and duplicate coverage.
- **Filtering Summary** You can filter items in the Summary screen by marking specific rooms in Grouping. This allows you to see exact quantities of items in the marked rooms.

What are Xactware's Complete Suite 97 system requirements?

- Windows 95 or Windows NT 4.0 (Service Pack 3) operating system (or higher)
- Pentium 133
- 16 MB of RAM
- 120 MB of available hard drive space (180 MB with tutorials installed)
- 4X CD ROM drive
- Fax/modem, 28.8 BPS
- SVGA color monitor with resolution set at 800x600
- TCP/IP Internet connection required for quick installation via XactNet and other XactNet uses

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XactValue ships nationwide

XactValue is a total component-based insure to value system. Using its step-by-step format, a home can be valued in under fifteen minutes.

In the past, some homes were not insured to value. XactValue has solved that problem by providing an accurate method for evaluating the reconstruction costs of a home. XactValue builds a computer model of the house and uses the same pricing information as our industry leading Xactimate.

XactValue calculates structures based on actual reconstruction costs. Zip codes are used to determine the location of the house and the price of reconstruction in that region.

XactValue eliminates rating systems, generalized formulas, and subjective choices. Homes are valued following a simple path from set up to printing the valuation.

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For more information on XactValue call 1-800-932-XACT (9228) or visit our website at www.xactware.com.

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Xactware, Inc. is changing our name and look

Xactware, Inc. is changing its name to **Xactware Information Services, Inc.** The change more accurately reflects our relationship with our customers as partners in designing and implementing tools that produce, collect, analyze, and present information in a way that maximizes its power.



We will continue to produce the best software and data in the industry and to provide the service and support you have come to expect from us.

Nothing else has changed. Company ownership, address, phone numbers, and e-mail addresses remain unchanged. For the latest Xactware news, visit our web site at www.xactware.com.

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Xactware support is expanding

Ultimate products deserve ultimate support. As Xactware strives to make our applications and services more user-friendly and accessible, we also strive to employ plenty of the best trained and friendliest support personnel, so you won't have to wait for answers.

Xactware added four new Support Specialists last month to ensure that you receive the finest support in the industry.

"Product support has always been an important part of Xactware's relationship with its customers," says Clint Webster, Manager of Technical Support.

Xactware has also made two new numbers available for product-specific support.

Xactimate and XactNet users can call 1-801-764-5922. XactAccount users now have their own number, 1-801-764-5923.

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SERVICEMASTER CHOOSES XACTWARE'S INFORMATION TOOLS

Strategic Alliance Includes Software Suite and Automated Assignment Network

OREM, UTAH SEPT. 15, 1997 - Xactware Information Services, Inc. has been selected by ServiceMaster Residential/Commercial Services, L.P. to provide customized software and an assignment/management network to ServiceMaster offices and franchise owners.



The ServiceMaster home offices, regional offices and more than 3,300 franchises that provide janitorial services, commercial cleaning, residential cleaning and disaster restoration will use a special *ServiceMaster Edition* of Xactware's "Complete Suite 97" office automation software and information tools.

The *ServiceMaster Edition* has a ServiceMaster look and feel and incorporates special ServiceMaster functions. Complete Suite 97 includes Xactimate® for estimating, XactAccount® for accounting, Xpedite™ for contact management and work scheduling, and integrated access to the XactNet™ assignment/management network.

In addition, Xactware and ServiceMaster have formed a strategic alliance called *XSITE* - for Xactware-ServiceMaster Information Technology Exchange. The alliance's goal is to develop customized software and networking services that can help ServiceMaster offices and franchises better serve their customers.

"The Xactware software suite and its integrated network will allow us to immediately forward customer assignments to the appropriate local ServiceMaster business," said Michael Isakson, President/Chief Operating Officer, ServiceMaster Franchise Services Group. It also will help ServiceMaster janitorial franchise owners by improving time management and by improving communications with national accounts and contracts.

Compatibility with major insurance companies

Isakson said there are four key reasons why ServiceMaster chose Xactware: 1) Compatibility with the software used by many major property insurance companies and independent adjusters, 2) A unique combination of integrated software and networking, 3) Superior technical support, and 4) Xactware's ability to customize software and networking solutions for ServiceMaster.

"Six of the top ten property insurers use Xactware's estimating software, so standardizing on Complete Suite 97 has important benefits for ServiceMaster and its franchisees," said Xactware president James Loveland. "It gives them a ready-built infrastructure for forming direct service relationships with insurers and adjusters, and with property and building managers." Other benefits for ServiceMaster's businesses and customers include:

- Estimates flowing through the network can be automatically audited for accuracy.
- Faster response to customer calls and faster distribution of assignments.
- Real-time logging and tracking of assignment status.

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- Management reports that can easily be user-tuned for specific information needs.
- Network-centric software provides an "instant network" for modem-equipped PCs.
- Enhanced opportunity to form contract service relationships with national and local accounts and with major insurers.

For an on-site demonstration or for more information about Xactware products and services, call 1-800-292-9228, or see the Xactware Internet site at <http://www.xactware.com>.

ServiceMaster is the leader in its industry. Its seven ServiceMaster Quality Service Network companies - ServiceMaster Residential/Commercial, Terminix, Merry Maids, TruGreen-ChemLawn, American Home Shield, Furniture Medic and AmeriSpec - serve more than six million customers in the United States and in 30 countries world-wide and had 1996 sales of more than \$4 billion.

Xactware provides innovative software solutions, training and networking to the insurance, construction and cleaning industries. Xactware products include Xactimate® for estimating, the XactNet® Claims Information System, XactAccount® for accounting, XactValue® insurance-to-value software, Xpedite™ for contact management and work scheduling, and local and national price databases for construction and cleaning businesses.

Xactware Fact Sheet

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PUROFIRST SELECTS XACTWARE SOFTWARE AND SYSTEMS

OREM, UTAH FEB. 20, 1998 - Purofirst has selected Xactware Information Services, Inc. to provide software and information services for their franchisees. Purofirst was the first company in the industry to bring whole-system solutions to property and casualty mitigation. By eliminating the piecemeal or "patchwork" systems used in the past, Purofirst assures their clients that the entire job will be well done from rough to finish.



Xactware shares the philosophy of improving work through the integration of systems. Xactware's full-circle information network, XactNet, allows insurance carriers to make assignments and process claims electronically. Purofirst franchisees will be accessing XactNet using XactCentral to receive assignments and send back completed estimates. Estimates will be completed using Xactimate the industry leading estimation application. Franchisees will also have the option to purchase Xactware's Complete Suite 97 built for Windows 95 and NT operating systems. Xactware's new Suite integrates estimating, accounting, scheduling, contact management, and communications into one product. This system saves time by eliminating data re-entry and assures greater accuracy by letting applications seamlessly share

information.

The powerful combination of software and networking services offered by Xactware is a perfect fit with the growing franchises of Purofirst.

Founded in 1986, Purofirst reached nationwide within the first decade of operations. Purofirst is headquartered in Fort Lauderdale, FL and is a Single Source Provider® of casualty restoration and reconstruction services for property losses. For more information on Purofirst visit their web site at <http://web.archive.org/web/19980629105252/http://www.purofirst.com/>.

Xactware Information Services, Inc. is headquartered in Orem, UT. Also founded in 1986, Xactware has become a leading supplier of software, training, and information services to the insurance, reconstruction and cleaning industries.

Xactware Fact Sheet

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The Unique Features of XactValue, A Reconstruction Cost Calculator

Xactware Information Services, Inc. (Xactware) was founded in 1986 and is headquartered in Orem, Utah. The central focus of Xactware is service to the insurance reconstruction industry where our estimating software, Xactimate, is the industry leader. In California, Xactware was on site to assist Xactimate users working at the Oakland fires and Northridge earthquake as well as other catastrophes.

Identifying a need for a better method to calculate residential structure replacement costs, Xactware created the XactValue program in 1995. There are many unique aspects of XactValue which distinguish it from other reconstruction cost calculators. Several of these are listed below for your information.

- ✓ **XactValue is a component based system.** Detailed information about a home is entered by the user in a series of windows. Exterior and interior construction data is collected using terms carefully selected so that they are easily understood. This data is then used to create a theoretical model of the structure. Each of the components required for construction of this model are then determined and individually priced.

For example, the roofing material used for a ranch style home will be greater than the roofing material used on a two-story home of the same square footage. Therefore, when the price of roof shingles changes it will cause the price of the ranch home to change more than the price of the two-story home. The result is a more refined cost estimate than what square-foot or unit-count methods can provide.

- ✓ **XactValue determines the quality classification.** When the user enters data about the features of the home, this information is used by XactValue to establish the quality of the home. This quality level determination is integral for designating the construction techniques, features, and materials incorporated in the model of the home. The user is not required to choose between an average, custom, or premium home classification. This means that the large 'steps' in price from one class to another are eliminated because XactValue has many more intermediate quality points than step systems allow.

For example, in some replacement cost calculators a custom home may be priced at \$250,000 and a premium home at \$300,000. The user designates the price of the home by selecting the home's classification. With XactValue, expertise is incorporated that automatically determines the classification and adjusts the quality points accordingly. Since this is based upon the objective information provided by the user rather than a subjective choice of a step, the user cannot arbitrarily step the price up or down.

- ✓ **XactValue pricing is reconstruction based.** The pricing used in XactValue is identical to the pricing in Xactimate - our structural repair software and data. Pricing databases are continuously updated with local market price information received from reconstruction contractors using Xactimate and material suppliers, as well as from actual insurance company claim settlements.

The use of current reconstruction costs from the local area enables XactValue to accurately establish the true replacement cost of the structure. This method of pricing

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varies greatly from systems that have a single national baseline price which is factored for a zip code and then indexed by inflation factors. These systems tend to focus on market value rather than actual replacement cost.

- ✓ **XactValue pricing is five digit zip code specific.** In California, Xactware maintains 35 unique, area pricing databases. These databases are linked to five digit zip codes. The model created to represent the data entered by the user may be customized to include different features based on the specific zip code location.

This may be done in order to account for locations where special features are commonly included in construction such as in resort areas, on islands, or in other affluent areas, for example.

- ✓ **XactValue incorporates additional expertise about construction techniques and materials.** Several factors affect construction costs and are incorporated by XactValue. These include the climate found in the zip code area, the applicable building codes, and the age of the home. Expertise has been included in the XactValue system to allow the pricing of homes built as early as 1850.

XactValue will calculate prices based on functional replacement or actual replacement with "like kind and quality" materials. With older heritage homes this represents a significant difference in the cost.

- ✓ **XactValue pricing categories can be specified.** There are four categories which can be included in or excluded from the total price. These are the cost of the foundation, architect's fees, permits and fees, and heritage home assumptions. This provides important flexibility for the user of XactValue. Once the data for a home has been entered, a profile listing the home details and a cost by trade report can be printed.

Having identified these industry needs for an improved residential replacement cost calculator, Xactware set out to determine solutions for them. We believe the XactValue solutions to these issues are the most advanced in the industry.

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The Shifting Dynamics of the Content Market
April 9-11, 2006
Camelback Inn | Scottsdale, Arizona

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• ON THE NET •

The Wayback Machine: The Web's Archive

by Greg R. Notess

Reference Librarian, Montana State University

Now that the Internet is established in the public information space, it has become a new publishing medium. The Web in particular has proved an incredible repository of all kinds of information content. But it has also proven to be a very changeable medium, noticeably lacking in permanence. Particularly during the past couple of years, as the number of new dot com failures has risen, previously existing Web sites have ceased operations and their information content has vanished into the Web's past.

With print publications, the libraries and archives of the world have made a major effort to collect and preserve print items. But the advent of the Web was so sudden and created an entirely new set of problems for cataloging, storage, and retrieval, that few libraries actively collected copies of Web pages. While the library profession worked diligently on finding solutions to the access side of the problems, Web pages were created, changed, and died, with no record of those pages being retained.

Fortunately, Brewster Kahle's Alexa Internet and its sister company, the Internet Archive, have done a huge amount of the collection work. Starting in 1996, the Internet Archive has been storing Web pages, including graphics files, from publicly accessible Web sites that Alexa has crawled. With the October 2001 launch of the Wayback Machine, this huge archive is now freely available to the Web public.

WHAT WAYBACK DOES

The Wayback Machine is a front end to the Internet Archive's collection of public Web pages. It includes more than 100 terabytes of data—a huge collection with huge storage requirements. The Wayback Machine provides access to this wealth of data by URLs. It is not text searchable—a user needs to know the exact URL of a particular Web page, or at least the Web site, to be able to enter the archive.

Upon entering an Internet address, the Wayback Machine presents a list of dates showing when that particular page has been archived. A check on the home page for the Library of Congress finds archived pages from November 9, 1996 through yesterday. There are far fewer pages in the 1996, 1997, 1998, and 1999 archives. In 2001, there was a copy from almost every other day.

Click on one of the displayed dates to see the archived page. The asterisk after some of the dates is used to designate when the Internet Archive detected a change in the page. So presumably, all those listings without an asterisk should be exactly the same as the first page before them that has an asterisk.

Note that the URL for the archived page begins with web.archive.org. Unlike the cached files at Google, the Wayback Machine also includes most image files in the archive. Thus, the images are not being drawn from a current server, but from the Internet Archive itself. This means that the archived page will display much more accurately how the page appeared on that particular date.

In addition, all the links on an archived page point not to the original linked location, but to other pages in the Internet Archive. So while the Wayback Machine is not searchable, it can be browsed. Find an archived page from 1997, click on any of the links on that page, and the Wayback Machine will take you to the closest (in terms of date) archive of the page available. In this way, a user can browse a Web site as it appeared within a certain time period.

The location of the Wayback Machine itself has shifted around among several URLs during its first few months. Both <http://web.archive.com> and <http://archive.alexa.com> worked in the past, but at this point, they all redirect to www.archive.org, the home of the Internet Archive itself.

WHY WAYBACK

There are many uses for the incredible archive from the Wayback Machine. At a very basic level, it is a great source to find the information on pages when the page or host itself is unavailable. When you come across a "404 not found" or similar message on the Web, just check on the Wayback Machine to find a copy of the page as it used to look. Google's cache used to be the only option for this function, but the cached pages are limited by the absence of any record of the date when they were cached. The Wayback Machine makes this so much easier by clearly identifying the date when the page was archived.

The historical implications of the Wayback Machine are immense. Historical researchers can now view significant portions of the Web as it existed at various times from 1996 to the present. The historical advantages go well beyond the pure historical research. Patent searchers can verify prior art. Business experts can look up failed companies' business plans. Employers can investigate job applicants' student Web pages. Sources lost because of complex URL shifting can be found by their old URL on the Wayback Machine.

The ability to view a range of versions of a particular page, and to browse the archived site itself, offers a range of uses. A new Web designer can look at previous incarnations of a site, even if the organization itself never archived the various versions. A new business can look at their competitors' early designs and avoid the same mistakes. And the researcher who is trying to track down the online resources from the bibliography of a four-year-old paper can find them in the archive, even if they have otherwise vanished from the current Web.

For institutions, the Internet Archive welcomes collaborative efforts to build special, theme-oriented collections. Already, there are three collections available: The September 11, 2001 collection, Web Pioneers, and Election 2000. As more special collections are created, they can be especially useful for more in-depth re-search on those topics.

ADVANCED FORM

Basic access to the archive is by a single URL, but the Wayback Machine also has an advanced search form. It is not linked from the front page, but is available as a link in small print at the top of the search form that appears with the results after a search has been entered. Look to the right of the "Take Me Back" button in the archived pages from the Library of Congress. It is also

directly available (<http://web.archive.org/collections/web/advanced.html>).

While there is still no textual search capability on the advanced search form, it does offer a range of options beyond the simple box on the home page. For example, the advanced form allows two kinds of URL Matching "Retrieve page that most closely matches search criteria" and "List all pages that match search criteria." The latter is the default on the simple form and brings up the list of date matches. The first option takes the user directly to the most recent copy of the archived page.

The advanced search form also gives options for limiting results to a specific range of dates. The individual archived pages have URLs so that they can be linked to directly. The advanced search page also explains the syntax. For example, the URL web.archive.org/20011230221317/http://www.site.net would be the www.site.net page archive on December 30, 2001 at 10:13p.m. and 17 seconds. In other words, the long list of numbers after the archive.org part represent the year, month, day, hour, minute, and second the page was archived in the form of YYYYMMDDhhmmss.

In addition to the scripted date limits available on the advanced form, an asterisk can be used as a truncation symbol within a URL as well. So, http://web.archive.org/200112*/http://www.site.net would retrieve a list of all the archived pages from December 2001. Leave off the asterisk and the Wayback Machine will automatically look for the page closest to the middle of the month. The truncation symbol can also be used to find all the pages from a site for a specific date. In other words, web.archive.org/1997*/http://www.site.net finds all the site URLs (pages and images) in the archive from 1997.

FILE FORMATS AND ALIASES

The advanced search form also points out that the Wayback Machine provides access to more than just Web pages. The File Types limit includes six formats: Images, Audio, Video, Binary, Text, and PDF. By choosing one of these file types and then only putting in the root URL (with a complete host name), the results will include all the file types of that format from that host in the archive. Each individual file type record has a unique URL, but if the searcher does not know the full URL, this limit helps to identify them. In addition, it can be used as a tool to count the number of a specific file type on a specific server.

The aliases are another nice feature on the advanced search. Many Web sites have multiple ways of writing a URL that will get to the exact same page, especially on the home page. The Aliases section of the advanced search gives three options. The default groups all host name aliases together, for the most comprehensive retrieval. However, a second option to "Show Aliases Separately" will give the exact matches for only the URL entered with a list of the other aliases while "Don't Show Aliases" will only give the exact matches.

LIMITATIONS

While recognizing the significant accomplishment of the Wayback Machine, it does have its limitations. Even with 100 terabytes of data, there is a great deal missing. The Internet Archive only includes a small amount of material from 1996, and the Web certainly pre-dates that. In addition, the older gopher content and other non-Web files are unavailable.

More significant are the orchestrated exclusions. Anyone can exclude their own pages by use of a

robots.txt file on their server. If the Internet Archive includes your Web pages and you want them excluded, just add a robots.txt file to exclude their crawler. The next time your page is crawled, all the old pages in the archive will be excluded as well. See www.archive.org/internet/remove.html for more details.

Unfortunately, far too many sites have had a robots.txt file excluding crawling or archiving. At least when a user requests a page that has been excluded due to a robots.txt file, the Wayback Machine gives an explanation as to why the page has been excluded and links to an archived copy of the site's robots.txt file.

The archiving process does have some problems. Most images are archived, but some still point to the original source and, thus, may end up as dead links or changed image files. Other images or objects on a Web page, especially at high traffic sites, may be linked to a network caching version, with a URL on an Akamai host, for example. Thus, some images on some pages will be missing.

Nor will the Wayback Machine always be available. After it first launched, a message often appeared stating that due to a "higher than expected number of requests," the Wayback Machine was down. At other times, you may run across a "This Internet Archive site is currently down for maintenance" message.

Given the huge size of the archive, another concern is the long-term financial viability of the Wayback Machine. Other than an Amazon button for donations, there are no ads on the site, nor does Alexa support it financially. According to Brewster Kahle, private fund raising, foundations, and grants currently support it. Kahle says that they "have enough to sustain the Wayback Machine, but that growth will be dependent upon financial support via joint projects."

Kahle should be lauded for trying to support the Wayback Machine more like a traditional library or archive as opposed to a typical commercial Web venture. The main page lists several donors including AT&T Research, Compaq, Prelinger Archives, QuantumDLT, and Xerox PARC. After all, Kahle hopes the Internet Archive can "build universal access to human knowledge. That's our goal in life."

It is a wonderful and worthy goal. And while the Wayback Machine has many limitations and excludes a huge amount of both online and print knowledge, it is certainly a major step forward in providing access to a large piece of that knowledge which is residing on the World Wide Web.



Greg R. Notess (greg@notess.com; www.notess.com/) is a reference librarian at Montana State University and founder of SearchEngineShowdown.com.

Comments? Email the editor at marydee@infotoday.com.

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